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NEWS 3	NOV 26	MARPAT enhanced with FSORT command
NEWS 4	NOV 26	CHEMSAFE now available on STN Easy
NEWS 5	NOV 26	Two new SET commands increase convenience of STN searching
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NEWS 7	DEC 12	GBFULL now offers single source for full-text coverage of complete UK patent families
NEWS 8	DEC 17	Fifty-one pharmaceutical ingredients added to PS
NEWS 9	JAN 06	The retention policy for unread STNmail messages will change in 2009 for STN-Columbus and STN-Tokyo
NEWS 10	JAN 07	WPIDS, WPINDEX, and WPIX enhanced Japanese Patent Classification Data
NEWS 11	FEB 02	Simultaneous left and right truncation (SLART) added for CERAB, COMPUAB, ELCOM, and SOLIDSTATE
NEWS 12	FEB 02	GENBANK enhanced with SET PLURALS and SET SPELLING
NEWS 13	FEB 06	Patent sequence location (PSL) data added to USGENE
NEWS 14	FEB 10	COMPENDEX reloaded and enhanced
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NEWS 20	FEB 23	TOXCENTER updates mirror those of MEDLINE - more precise author group fields and 2009 MeSH terms
NEWS 21	FEB 23	Three million new patent records blast AEROSPACE into STN patent clusters
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=> s chromatography and elution and borate(w)buffer
L1          345 CHROMATOGRAPHY AND ELUTION AND BORATE(W) BUFFER

=> s l1 and (ion(w)exchange)
L2           46 L1 AND (ION(W) EXCHANGE)

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L3            28 DUP REM L2 (18 DUPLICATES REMOVED)

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using DELETE HISTORY.

=> s l3 and py<2004
L4           26 L3 AND PY<2004

=> dis ibib abs 14 1-26

L4   ANSWER 1 OF 26     MEDLINE on STN
ACCESSION NUMBER:   1991131736     MEDLINE
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DOCUMENT NUMBER: PubMed ID: 2283370
TITLE: Determination of free catecholamines in human urine by direct injection of urine into a liquid chromatographic column-switching system with fluorimetric detection.
AUTHOR: Seki T; Yanagihara Y; Noguchi K
CORPORATE SOURCE: College of Bio-Medical Technology, Osaka University, Japan.
SOURCE: Journal of chromatography, (1990 Aug 31) Vol. 515, pp. 435-40.
Journal code: 0427043. ISSN: 0021-9673.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199103
ENTRY DATE: Entered STN: 5 Apr 1991
Last Updated on STN: 5 Apr 1991
Entered Medline: 15 Mar 1991

AB An ion-exchange chromatographic method combined with ion exclusion was developed for the determination of free catecholamines in human urine. Catecholamines were separated by ion exclusion from most acidic and neutral impurities by filtration through an anion-exchange column with a hydrophilic matrix (Asahipak ES-502N) and the excluded catecholamines were separated by ion-exchange chromatography on a column of weakly acidic ion exchanger with a hydrophilic matrix (Asahipak ES-502C), connected in series to the Asahipak ES-502N column with a four-way automatic valve. A sodium succinate-borate buffer of pH 6.7 (0.035 mol of succinic acid, 0.0075 mol of borate and 0.5 mmol of ethylenediaminetetraacetate were dissolved in 1 kg of water and the pH of the solution was adjusted to 6.7 with sodium hydroxide) was used as the mobile phase, and the temperature of both columns was kept at 30 degrees C. The catecholamines in the eluate were determined fluorimetrically by post-column derivatization with glycylglycine. A diluted urine sample was injected directly onto the first column. The first column was back-flushed with the mobile phase for 52.5 min after the elution of the catecholamines from the first to the second column. Then the columns were washed with the mobile phase for 10 min in the normal direction before the next sample was injected into the first column. Samples could be analysed every 70 min and 5 pmol/ml of epinephrine, 5 pmol/ml of norepinephrine and 25 pmol/ml of dopamine in human urine could be determined.

L4 ANSWER 2 OF 26 MEDLINE on STN
ACCESSION NUMBER: 1987271127 MEDLINE
DOCUMENT NUMBER: PubMed ID: 3606817
TITLE: Fractionation of human milk oligosaccharides by high-performance liquid chromatography.
AUTHOR: Konami Y; Yamamoto K; Tsuji T; Osawa T
SOURCE: Biological chemistry Hoppe-Seyler, (1987 Apr) Vol. 368, No. 4, pp. 309-14.
Journal code: 8503054. ISSN: 0177-3593.
PUB. COUNTRY: GERMANY, WEST: Germany, Federal Republic of
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198708
ENTRY DATE: Entered STN: 5 Mar 1990
Last Updated on STN: 5 Mar 1990
Entered Medline: 28 Aug 1987

AB An ion-exchange chromatographic system was used to isolate several human milk oligosaccharides, the elution being carried out with a linear gradient of a sodium borate buffer. Lacto-N-tetraose, lacto-N-neotetraose,

lacto-N-fucopentaose I, II and III, lacto-N-difucohexaose I and 2'-alpha-fucosyllactose can be separated by this method.

L4 ANSWER 3 OF 26 MEDLINE on STN
ACCESSION NUMBER: 1985249278 MEDLINE
DOCUMENT NUMBER: PubMed ID: 2990252
TITLE: An assay for ribonucleotide reductase based on ion -exchange chromatography of the reaction product.
AUTHOR: Narine D R; Bacchetti S; Chan W W
SOURCE: Analytical biochemistry, (1985 Mar) Vol. 145, No. 2, pp. 331-8.
Journal code: 0370535. ISSN: 0003-2697.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE) (RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198507
ENTRY DATE: Entered STN: 20 Mar 1990
Last Updated on STN: 20 Mar 1990
Entered Medline: 31 Jul 1985

AB A rapid and convenient assay for ribonucleotide reductase has been developed in which the reaction product, deoxycytidine diphosphate (dCDP), is isolated without further conversion. The enzymatic reaction is terminated by the addition of ethanol and the sample is chromatographed on a single, small, and disposable column of polyethylenimine cellulose. A two-step elution is conducted with buffers containing 25% ethanol. First, contaminants and byproducts such as cytidine and its monophosphate are removed at low ionic strength while the diphosphates are retained. Then dCDP is selectively eluted as a sharp peak with a strong borate buffer. Under these conditions, the excess substrate, cytidine diphosphate, remains on the column, presumably as the borate complex. The assay is linear with time for 15 min at 25 degrees C and linear with the amount of enzyme even at very low concentrations. With slight modifications, the assay seems applicable to the use of UDP or ADP as substrates. The method is not suitable for samples which contain nucleotide kinase or other interfering enzymes which convert a significant amount of dCDP into byproducts. However, another chromatographic system based on similar principles has been found which could be used to measure any dCTP produced in this way.

L4 ANSWER 4 OF 26 MEDLINE on STN
ACCESSION NUMBER: 1983202085 MEDLINE
DOCUMENT NUMBER: PubMed ID: 6846817
TITLE: Automated analysis of alditols by anion-exchange chromatography with photometric and fluorimetric postcolumn derivatization.
AUTHOR: Honda S; Takahashi M; Shimada S; Kakehi K; Ganno S
SOURCE: Analytical biochemistry, (1983 Feb 1) Vol. 128, No. 2, pp. 429-37.
Journal code: 0370535. ISSN: 0003-2697.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198306
ENTRY DATE: Entered STN: 18 Mar 1990
Last Updated on STN: 18 Mar 1990
Entered Medline: 10 Jun 1983

AB Eight alditols were separated in ca. 80 min as their borate complexes by stepwise elution with three borate buffers

on a column packed with Hitachi 2633 resin. The alditols in the eluate were derivatized automatically to colored, fluorescent products by applying sequential reactions of periodate oxidation and Hantzsch condensation, and the products were detected either photometrically or fluorimetrically. This automated method allowed simultaneous determination of 20-500 and 20-200 nmol amounts of alditols by photometric and fluorimetric monitorings, respectively. The lower limits of detection were ca. 2 and 0.5 nmol, respectively. The interference by aldoses was slight. Aldoses may be also determined as alditols by direct injection of aqueous solutions to which excess amounts of sodium borohydride have been added. This method was applied with success to urinary alditol assay and to molecular weight determination by end group analysis.

L4 ANSWER 5 OF 26 MEDLINE on STN
ACCESSION NUMBER: 1980137786 MEDLINE
DOCUMENT NUMBER: PubMed ID: 757589
TITLE: High-performance liquid chromatographic investigation of the amino acid, amino sugar and neutral sugar content in glycoproteins.
AUTHOR: Tikhomirov M M; Khorlin A Y; Voelter W; Bauer H
SOURCE: Journal of chromatography, (1978 Dec 21) Vol. 167, pp. 197-203.
Journal code: 0427043. ISSN: 0021-9673.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198005
ENTRY DATE: Entered STN: 15 Mar 1990
Last Updated on STN: 15 Mar 1990
Entered Medline: 14 May 1980
AB A methods for the simultaneous separation and determination of amino acids, amino sugars and neutral carbohydrates is described. Stepwise elution systems with sodium citrate and borate buffers have developed for the ion-exchange liquid chromatographic separation of amino acids and sugars, using 8-micrometer particle size resins and the Stein and Moore and orcinol colorimetric method for detection. With the aid of this system, the direct quantitative comparison of sugars and amino acids by liquid chromatography becomes possible for the first time.

L4 ANSWER 6 OF 26 MEDLINE on STN
ACCESSION NUMBER: 1976095403 MEDLINE
DOCUMENT NUMBER: PubMed ID: 1415
TITLE: Specific ion-exchange chromatography and fluorimetric assay for urinary 3-O-methyldopamine.
AUTHOR: Dalmaz Y; Peyrin L
SOURCE: Journal of chromatography, (1976 Jan 21) Vol. 116, No. 2, pp. 379-941.
Journal code: 0427043. ISSN: 0021-9673.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197603
ENTRY DATE: Entered STN: 13 Mar 1990
Last Updated on STN: 6 Feb 1995
Entered Medline: 20 Mar 1976
AB A technique for the selective extraction of 3-O-methyldopamine, normetanephrine and metanephrine from a single urine sample has been investigated. After hydrolysis of the conjugates, the diluted mixture is

passed through a Dowex 50W-X2 column and the methoxylated amines are eluted by means of concentrated ammonia. The eluate, containing metanephrine, normetanephrine and 3-O-methyldopamine is evaporated, and a solution of the residue in borate buffer is fractionated under strictly controlled conditions on an Amberlite CG-50 column. The three amines so separated are estimated by specific fluorimetric methods. The extraction recovery is 80 +/- 3% for pure solutions and 78 +/- 4% for 3-O-methyldopamine added to urine. The fluorimetric procedure, carried out under well-defined conditions, allows the estimation of 10 ng of 3-O-methethyldopamine. The spectral characteristics of the fluorescent derivative are similar to those obtained with dopamine, so that it can be assumed that iodine oxidation of 3-O-methyldopamine demethylates this compound and oxidises the resulting dopamine to the dopamine fluorophore (5,6-dihydroxy-indole). Of the compounds that might interfere in the fluorimetric procedure, dopamine, DOPA and alpha-methyl-DOPA are destroyed by the ammoniacal elution from the Dowex column and 3-O-methyl-DOPA is eliminated in the effluent from the Amberlite column. The elimination of interfering compounds and the improved separation on Amberlite ensure high specificity for this procedure. We have applied the method to normal urine and to pathological urines from patients with adrenergic tumours or untreated and treated parkinsonian subjects; vital information has been obtained on the prognosis of adrenergic tumours. The presence of large amounts of dopamine, normetanephrine and/or metanephrine does not affect the assay for 3-O-methyldopamine. The method is also applicable to rat and dog urine, and can be applied to tissue extracts with little modification.

L4 ANSWER 7 OF 26 EMBASE COPYRIGHT (c) 2009 Elsevier B.V. All rights reserved on STN

ACCESSION NUMBER: 1993025230 EMBASE
TITLE: Determination of kinetin in callus of Panax ginseng by liquid chromatography.
AUTHOR: Takagi, K. (correspondence); Toyoda, M.; Saito, Y.; Mizuno, K.; Shimizu, M.; Satoh, S.
CORPORATE SOURCE: Nat. Institute of Hygienic Sciences, 1-18-1 Kamiyoga, Setagaya-ku, Tokyo 158, Japan.
SOURCE: Journal of Chromatography, (1993) Vol. 628, No. 1, pp. 122-126.
ISSN: 0021-9673 CODEN: JOCRAM
COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical and Experimental Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 21 Feb 1993
Last Updated on STN: 21 Feb 1993

AB A high-performance liquid chromatographic (HPLC) method was developed for the determination of kinetin levels in Panax ginseng dried callus, fresh callus and culture media. Ground dried callus was suspended in borate buffer and extracted with ethyl acetate. The extract was eluted through a cation-exchange column (Amberlite CG-50), then re-extracted with ethyl acetate. This extract was subjected to HPLC. Kinetin levels were determined by gradient elution on an Inertsil ODS-2 column and UV detection at 280 nm. The ion-exchange column chromatographic purification step could be eliminated with kinetin extracts from fresh callus and culture media. The recovery of kinetin from dried callus spiked at 5 μg g(-1) was 72.0% and those from fresh callus and media spiked at 1.0 and 0.5 μg g(-1) were 72.8 and 84.2%, respectively. Kinetin was not detected in dried callus of P. ginseng.

L4 ANSWER 8 OF 26 EMBASE COPYRIGHT (c) 2009 Elsevier B.V. All rights

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ACCESSION NUMBER: 1974181467 EMBASE
TITLE: Preparative isolation of carnosine and anserine from muscle tissue by ion exchange chromatography (Russian).
AUTHOR: Ritov, V.B.
CORPORATE SOURCE: Dept. Biochem. Anim., Fac. Biol. Soil Sci., M.V. Lomonosov State Univ., Moscow, USSR.
SOURCE: Voprosy Meditsinskoj Khimii, (1974) Vol. 20, No. 1, pp. 90-94.
ISSN: 0042-8809 CODEN: VMDKAM
DOCUMENT TYPE: Journal
FILE SEGMENT: 029 Clinical and Experimental Biochemistry
LANGUAGE: Russian
AB A method for preparative isolation of carnosine and anserine from bovine and rabbit skeletal muscles by means of ion exchange chromatography is described. The method involved preparation of a protein free aqueous extract of muscle tissue, separation of carnosine and anserine from pigments and other low molecular substances and subsequent gradient elution with borate buffer for separation of anserine from carnosine. Chromatographically pure preparations of carnosine and anserine were obtained by the method with fairly high yields.

L4 ANSWER 9 OF 26 BIOSIS COPYRIGHT (c) 2009 The Thomson Corporation on STN
ACCESSION NUMBER: 1976:176102 BIOSIS
DOCUMENT NUMBER: PREV197662006102; BA62:6102
TITLE: AN IMPROVED BUFFER SYSTEM FOR USE IN SINGLE COLUMN GRADIENT ELUTION ION EXCHANGE CHROMATOGRAPHY OF AMINO-ACIDS.
AUTHOR(S): MURREN C; STELLING D; FELSTEAD G
SOURCE: Journal of Chromatography, (1975) Vol. 115, No. 1, pp. 236-239.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: Unavailable
AB Separation of amino acids was achieved by Thomas et. al. by producing on the ion-exchange column a pH gradient derived from the accurate mixing of 2 buffers of high and low pH with equimolar Na concentration. The technique as 1st reported relied on a citrate-phosphate buffer system which apparently gives somewhat limited control of the pH gradient during elution of the basic amino acids. An alternative citrate-borate buffer system is described which gives better control of the pH gradient in the basic region with a resulting improvement in the separation of the appropriate amino acids.

L4 ANSWER 10 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1987:422003 CAPLUS
DOCUMENT NUMBER: 107:22003
ORIGINAL REFERENCE NO.: 107:3707a,3710a
TITLE: Separation of methionine sulfone when determining sulfur amino acids after oxidative pretreatment on a single column automatic analyzer type AAA 339
AUTHOR(S): Simova, Olga
CORPORATE SOURCE: Ustred. Kontrolni Zkusebni Ustav Zemed., Prague, 180 00, Czech.
SOURCE: Scientia Agriculturae Bohemoslovaca (1986), 18(2), 97-104
CODEN: SABHAM; ISSN: 0582-2343
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In the determination of S-containing amino acids by oxidation before feed protein hydrolysis, the separation of methionine sulfone [820-10-0] and cysteic acid [498-40-8] peaks from those of other amino acids was improved by elution of the Ostion LG ANB cation exchanger column with a pH 2.3 Na-citrate-borate buffer containing thiodiglycol 0.25, 30% Brij 35 0.32, and caprylic acid 0.01%. The method was tested with a wheat. Recoveries averaged 101% for cysteic acid and 98.7% for methionine sulfone.

L4 ANSWER 11 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1985:109189 CAPLUS
DOCUMENT NUMBER: 102:109189
ORIGINAL REFERENCE NO.: 102:17098h,17099a
TITLE: Purification of chromosomal HMG proteins by HPLC characterization of two new species: HMG O and HMG X
AUTHOR(S): Delpech, M.; Riffe, A.; Boissel, J. P.; Labie, D.; Kruh, J.
CORPORATE SOURCE: Inst. Pathol. Biol. Cell. Mol., Fac. Med., Paris, 75014, Fr.
SOURCE: Protides of the Biological Fluids (1985), Volume Date 1984, 32, 1057-60
CODEN: PBFPA6; ISSN: 0079-7065
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The purification and characterization are described of 2 new chromosomal HMG proteins (HMG O and X) from rat organ HClO4 exts. by ion-exchange HPLC. HPLC was carried out on a Mono S column. Elution with a discontinuous NaCl resulted in separation of pure HMG 14 and 17 and of 2 new HMG species (called HMG O and X), which were separated into 2 peaks by using borate buffer (pH 8.8) and characterized by gel electrophoresis, amino acid composition, and solubility studies. HMG O was found in liver and kidney, whereas HMG X was found in all organs studied. HMG X and O were not found in cultured hepatoma cells.

L4 ANSWER 12 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1984:403296 CAPLUS
DOCUMENT NUMBER: 101:3296
ORIGINAL REFERENCE NO.: 101:571a,574a
TITLE: Determining amino saccharides from the Streptococcus cell wall using a carbohydrate analyzer
AUTHOR(S): Bitko, S. A.; Savel'ev, E. P.; Petrov, G. I.
CORPORATE SOURCE: First Moscow Med. Inst., Moscow, USSR
SOURCE: Prikladnaya Biokhimiya i Mikrobiologiya (1984), 20(2), 285-9
CODEN: PBMIAK; ISSN: 0555-1099
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Amino sugars (muramic acid, glucosamine, and galactosamine) were determined with a carbohydrate analyzer (Biotronic) and cation exchanger DC-6. Elution was with 0.4M Na citrate buffer (pH 3; 59°). The neutral sugars were chromatographed on the ion-exchange resin DX-4, with elution by 0.1-0.5M borate buffer (pH 8-10; 59°). The separation of the amino and neutral sugars cannot be done simultaneously even by using the 2 different columns. Cu-bicinchoninate reagent was used for detecting the sugars and was an order more sensitive than the orcin-H2SO4 reagent. A linear relation was observed between the concentration and the absorbance (570 nm). In a related study, the amino and neutral sugars were determined in Streptococcus A cell wall after hydrolysis with 1N HCl at 109° for 5 and 2 h,

resp., evaporation of the H2O-diluted reaction mixture, and sugar detection.

L4 ANSWER 13 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1979:179687 CAPLUS
DOCUMENT NUMBER: 90:179687
ORIGINAL REFERENCE NO.: 90:28380a
TITLE: Automatic separation and quantitative determination of furfuroles and/or lower aliphatic aldehydes in a mixture with sugars
INVENTOR(S): Sinner, Michael; Dietrichs, Hans Hermann
PATENT ASSIGNEE(S): Projektierung Chemische Verfahrenstechnik G.m.b.H., Fed. Rep. Ger.
SOURCE: Ger. Offen., 36 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2732288	A1	19790201	DE 1977-2732288	19770716 <--
PRIORITY APPLN. INFO.:			DE 1977-2732288 A	19770716

AB A method for the automatic separation and quant. determination of furfuroles and (or) lower aliphatic aldehydes in mixts. with sugars is described in which the sample solution is passed through a chromatog. column packed with a strongly basic ion exchanger in the borate form. The sample is eluted by gradient elution with a borate buffer solution The effluent is passed through a flow-through cell of a UV spectrometer where the furfuroles only are detected. The separated furfuroles, sugars, and (or) lower aliphatic aldehydes are then reacted with a pH 11.2-11.7-aqueous solution containing 0.04-0.25 weight% di-Na 2,2'-bicinchoninate, 2-15 weight% Na2CO3, 0.05-0.2 weight% aspartic acid or citric acid, and 0.02-0.15 weight% Cu sulfate (as pentahydrate) and the colored compds. are detected spectrophotometrically with a flow-through spectrometer. The technique was illustrated by the separation and determination of a mixture of AcH, H2CO, cellobiose, furfurole, 5-hydroxymethylfurfurole, mannose, xylose, and glucose.

L4 ANSWER 14 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1977:415531 CAPLUS
DOCUMENT NUMBER: 87:15531
ORIGINAL REFERENCE NO.: 87:2373a,2376a
TITLE: The fully automatic ion-exchange and gel-permeation chromatography of neutral monosaccharides and oligosaccharides with a Jeolco JLC-6AH analyzer
AUTHOR(S): Kennedy, John F.; Fox, John E.
CORPORATE SOURCE: Dep. Chem., Univ. Birmingham, Birmingham, UK
SOURCE: Carbohydrate Research (1977), 54(1), 13-21
CODEN: CRBRAT; ISSN: 0008-6215
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An amino acid analyzer was modified for use as an ion-exchange chromatog. analyzer for carbohydrates by installation of a piston pump for H2SO4, absorbance filters for 425 and 510 nm, and a 2nd column. Mono-, di-, tri-, and some deoxymonosaccharides were separated by using an elution program with pH 6.0-9.6 borate buffers at 55° in descending mode on a column packed with LC-R-3 quaternary ammonium ion-

exchange resin. The anal. time is 6.5 h. Oligosaccharides (mol. weight <.apprx.3500) were separated by gel-permeation chromatog. in ascending mode at 65° on a column packed with Bio-Gel P2. The effluents from the 2 columns were reacted with orcinol-H_2SO_4 at 95° and the color produced was measured by 2 flow cells at 425 and 510 nm. The anal. time is 22 h. The detection limit is 0.1 μg carbohydrate. The separation in the ascending mode is better than with the same gel-filtration column under gravity-flow or peristaltic-pump conditions. The apparatus is versatile and adaptable for use with other than standard anal.

L4 ANSWER 15 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1977:67787 CAPLUS
DOCUMENT NUMBER: 86:67787
ORIGINAL REFERENCE NO.: 86:10756h,10757a
TITLE: A simple and sensitive fluorometric assay method for taurine using high-voltage paper electrophoresis
AUTHOR(S): Yoshikawa, Kazuaki; Kuriyama, Kinya
CORPORATE SOURCE: Dep. Pharmacol., Kyoto Prefect. Univ. Med., Kyoto, Japan
SOURCE: Japanese Journal of Pharmacology (1976), 26(6), 649-54
CODEN: JJPAAZ; ISSN: 0021-5198
DOCUMENT TYPE: Journal
LANGUAGE: English
AB For the separation of taurine, high-voltage paper electrophoresis, subsequent to ion-exchange chromatog., was employed. A fluorescent product of taurine was formed by spraying fluorescamine and borate buffer on the paper, and the fluorescence was determined spectrofluorometrically after elution with 50% EtOH. A linear relation between taurine concentration and fluorescence was observed for 0.5-10 nmol, and recoveries were 90-100%. The specificity of this method for taurine was satisfactory, and structural analogs involved in the metabolic pathway of taurine did not interfere. Tissue levels of taurine in various rat organs are presented.

L4 ANSWER 16 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1976:162993 CAPLUS
DOCUMENT NUMBER: 84:162993
ORIGINAL REFERENCE NO.: 84:26467a,26470a
TITLE: The fractionation of water-soluble rye carbohydrates
AUTHOR(S): Breyer, D.
CORPORATE SOURCE: Berlin, Fed. Rep. Ger.
SOURCE: Ber. Getreidechem.-Tag., Detmold (1975) 91-101
CODEN: BGCDA6
DOCUMENT TYPE: Journal
LANGUAGE: German
AB Gel filtration on Bio-gel P-2 was used for preliminary separation of the carbohydrates extracted from rye flour with H_2O at 20° for 30 min followed by centrifugation and ultrafiltration of the extract The composition of the 10 fractions obtained from gel filtration was then studied by acid hydrolysis and ion exchange on Dowex 1-X4 with borate buffer gradient elution (0.15M pH 8.4→0.28M pH 8.8). The initial hydrolysis was with 3% HNO_3 for 3 hr at 100°; the residue was then hydrolyzed with 0.1N oxalic acid for 45 min at 70°. Chromatograms of the 10 fractions are given.

L4 ANSWER 17 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1976:86292 CAPLUS
DOCUMENT NUMBER: 84:86292
ORIGINAL REFERENCE NO.: 84:14117a,14120a

TITLE: A rapid and simple determination of histamine and polyamines
AUTHOR(S): Endo, Yasuo; Ogura, Yasumi
CORPORATE SOURCE: Sch. Dent., Tohoku Univ., Sendai, Japan
SOURCE: Japanese Journal of Pharmacology (1975), 25(5), 610-12
CODEN: JJPAAZ; ISSN: 0021-5198
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A method is described for the separation and determination of histamine and polyamines by using ion-exchange chromatog. on CM-cellulose; the method is applied to the anal. of rat tissues. Tissue exts. (brain, kidney, liver, spleen, and testes) were applied to 0.6 + 10 cm columns of CM-cellulose equilibrated with 0.01M phosphate buffer (pH 6.2), and elution was performed at 20-5° by stepwise increases of both concentration of phosphate and NaCl-containing borate buffers and pH. The method gave a rapid separation of histamine, spermidine, and spermine with recoveries of 95-100%.

L4 ANSWER 18 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1975:528361 CAPLUS
DOCUMENT NUMBER: 83:128361
ORIGINAL REFERENCE NO.: 83:20167a,20170a
TITLE: Automated determination of saccharides using ion-exchange chromatography of their borate complexes
AUTHOR(S): Walborg, Earl F., Jr.; Kondo, Lena E.; Robinson, John M.
CORPORATE SOURCE: Univ. Texas Syst. Cancer Cent., M. D. Anderson Hosp. Tumor Inst., Houston, TX, USA
SOURCE: Methods in Enzymology (1975), 41, Pt. B, 10-21
CODEN: MENZAU; ISSN: 0076-6879
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The ion-exchange chromatog. method of E. F. Walborg, Jr. and L. E. Kondo (1970), which uses elution with 2,3-butanediol-borate buffers for the separation and determination of mixts. of neutral mono-, di-, and trisaccharides, was described. In addition, a modified version of the above procedure was detailed that provided a more rapid and sensitive anal. of the neutral monosaccharides commonly found in glycoproteins: mannose, fucose, galactose, and glucose.

L4 ANSWER 19 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1975:53558 CAPLUS
DOCUMENT NUMBER: 82:53558
ORIGINAL REFERENCE NO.: 82:8547a,8550a
TITLE: Separation of simple sugars, di-, and trisaccharides by ion-exchange chromatography
AUTHOR(S): Besle, J. M.; Lassalas, Bernadette
CORPORATE SOURCE: Cent. Rech. Clermont-Ferrand, Inst. Natl. Rech. Agron., Beaumont, Fr.
SOURCE: Annales de Biologie Animale, Biochimie, Biophysique (1974), 14(3), 545-73
CODEN: ABABAC; ISSN: 0003-388X
DOCUMENT TYPE: Journal
LANGUAGE: French
AB Carbohydrates were separated as their borate complexes on an anion exchange column at 55° by using concentration gradient elution with a mixture of borate, NaCl, and NaHCO3. The process was totally automated

including the removal of dissolved gases from the solns. before chromatog. The sugars in the effluent were determined by the H_2SO_4-orcinol method. For optimal separation the sugars were introduced as solns. in 0.1M borate buffer, pH 8. Details of column preparation, resin purification, and operation of the system are given. Various factors influencing the system were studied: elution gradient, pH of the eluent, flow rate, and temperature As the temperature of elution increased from 30 to 65° resolution improved and pressure loss decreased, but the elution volume increased and above 55° destruction of the sugars occurred. The optimal pH of the eluent buffer was 9.5. Recoveries of 12 sugars through the system ranged from 71.6% for maltose to 99% for xylose. The surfaces of the recorded chromatogram peaks were measured by triangulation and electronic integration.

L4 ANSWER 20 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1971:471156 CAPLUS
DOCUMENT NUMBER: 75:71156
ORIGINAL REFERENCE NO.: 75:11231a,11234a
TITLE: Improved method for the automated analysis of sugars by ion-exchange chromatography
AUTHOR(S): Floridi, A.
CORPORATE SOURCE: Ist. Sci. Aliment., Univ. Perugia, Perugia, Italy
SOURCE: Journal of Chromatography (1971), 59(1), 61-70
CODEN: JOCRAM; ISSN: 0021-9673
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A method for the separation and determination of several mono-, di-, and trisaccharides is described. Stepwise elution systems with borate buffers at high temps. have been developed for the ion-exchange chromatog. of sugars, utilizing a Dowex 1 X4 resin. Total anal. time was 250, 336, and 610 min for the resp. systems developed. The column effluent was analyzed with a Technicon AutoAnalyzer by using the orcinol colorimetric method. A linear relation exists between peak area or net peak height and different varying amts. of sugars.

L4 ANSWER 21 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1967:429753 CAPLUS
DOCUMENT NUMBER: 67:29753
ORIGINAL REFERENCE NO.: 67:5594h,5595a
TITLE: Automatic monitoring of large-scale amino acid chromatography in studies of plant nitrogen metabolism
AUTHOR(S): Thompson, John Fanning; Morris, Clayton James; Hodson, Robert C.
CORPORATE SOURCE: Soil and Water Conservation Res. Div., U.S. D.A., Ithaca, NY, USA
SOURCE: Autom. Anal. Chem., Technicon Symp. (1966), Volume 1965, 84-93
CODEN: 16MCAR
DOCUMENT TYPE: Conference
LANGUAGE: English
AB L-α-Amino-δ-hydroxyvaleric acid (I) and γ-L-glutamyl-L-alanine (II) were isolated from Jack beans (Canavalia ensiformis) and Wedgewood iris (Iris tingitana), resp., and identified. I was obtained from 25 kg. Jack bean seeds by extraction with 80% EtOH, separation of amino compds. on sulfonic acid resin, elution with NH3 (CA 54:

2664a), and isolation of neutral compds. by adsorption of acidic compds. on a quaternary amine resin (CA 57: 8858i). The ninhydrin-reactive compds. were analyzed by passing the neutral amino acid fraction through ion-exchange resin, sizing, buffering with 0.3M pyridinium formate pumped at 8.5 ml./min., and diverting a small amount of effluent through an amino acid analyzer. The fractions corresponding to individual peaks were subjected to 2-dimensional chromatog. after evaporating the volatile buffer. The separated I along with homoserine, asparagine, and aspartic acid and traces of proline and threonine was first chromatographed on a paper roll, using 70% EtOH, and then rechromatographed with tert-BuOH-MeOH-H2O (6:5:2). The fraction containing I was desalted and crystallized several times from MeOH to give a yield of 40 mg. Ir spectra showed that the isolated compound was pure I. For II, 22 kg. of fresh Wedgewood iris leaves were extracted with 70% EtOH and the amino compds. purified by ion-exchange adsorption. Acidic compds. were removed (loc. cit.) and the unknown material eluted with 0.05 and 0.15N AcOH. Chromatographic separation was done using 0.3M pyridinium formate and the effluent monitored by an amino acid analyzer. The principal acid-unstable unknown was identified as II, whereas the 2nd unknown was γ-L-glutamyl-L-valine. In further expts., urea and NH3 intake by N-starved cells of the alga Chlorella was studied, using 15N. The alga was extracted with 80% EtOH, treated with CHCl3 to sep. any fatty material, and the aqueous layer was dried in basic medium to remove NH3. To 100 ml. of a 15% suspension of these alga cells, 1 ml. of urea-15N or 15NH4NO3 was added to give a 0.01M solution After shaking in light for 15 min., the cells were processed for the separation of amino acids and the analysis of 15N. The amino acids were purified and partially fractionated on ion-exchange columns. The neutral amino acid fractions, with amides removed, were separated by resin chromatog., using the volatile buffer pyridinium formate. Leucine, tyrosine, and γ-aminobutyric acid were removed by eluting with pyridinium acetate (pH 4.4). Column effluents were analyzed and the fractions rechromatographed, after removing the volatile buffer, at 50° with pH 3.1 buffer to obtain alanine and valine. The acidic amino acids were separated with Na citrate buffer (pH 4.68) at 50°. Nearly complete separation of ornithine, lysine, histidine, and arginine was achieved. Single amino acids were collected and dried in a rotary vacuum evaporator. Traces of NH3 and pyridine were removed by drying with KOH-borate buffer. NH3 obtained by Kjeldahl digestion was converted by NaOBr to N and analyzed for 15N by mass spectrometry. The method was suited for 4 micromoles NH3 as the lower limit with <10% error. NH3-fed cells had significantly higher concns. of glutamine, alanine, ornithine, and arginine as compared with urea-fed cells. In the latter, only glutamic acid showed a higher level. When compared with the results prior to the addition of N, a marked increase in the content of glutamic acid, glutamine, and alanine in NH3-fed cells and of glutamic acid in urea-fed cells was indicated.

L4 ANSWER 22 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER:	1965:490972 CAPLUS
DOCUMENT NUMBER:	63:90972
ORIGINAL REFERENCE NO.:	63:16753h,16754a
TITLE:	A new method for the extraction of inorganic polyphosphates from bakers' yeast and their separation by ion-exchange chromatography
AUTHOR(S):	Kumagai, Kanji
SOURCE:	Memoirs of the Institute of Scientific and Industrial Research, Osaka University (1965), 22, 167-79 CODEN: MISIAW; ISSN: 0369-0369
DOCUMENT TYPE:	Journal

LANGUAGE: English
AB Inorg. polyphosphates may be extracted from defatted yeast cells by using 0.05M Tris-HCl buffer, containing uranyl acetate and having a pH of 8.7. These extracted polyphosphates can then be purified by column chromatography on Dowex 1-4X, 100-200 mesh (in the Cl- form). Gradient elution is carried out using increasing concns. of KCl in 0.005M boric acid/Na borate buffer (pH 8.0) or 0.01M NH4Cl/NH4OH (pH 9.3).

L4 ANSWER 23 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1962:424762 CAPLUS
DOCUMENT NUMBER: 57:24762
ORIGINAL REFERENCE NO.: 57:5006e-g
TITLE: Purification and properties of histaminase
AUTHOR(S): Goryachenkova, E. V.
SOURCE: Aktual'nye Vopr. Sovrem. Biokhim., Akad. Med. Nauk SSSR, Inst. Biol, i Med. Khim. (1959), 1, 79-88
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Diamine oxidase or histaminase (I) was isolated from porcine kidneys and pea sprouts. I was precipitated from the exts. with either Na2SO4 or (NH4)2SO4, and the crude precipitate was fractionated by either preparative electrophoresis or by diethylaminoethyl (DEAE) cellulose ion-exchange chromatography. Elution from the DEAE cellulose column was accomplished with 0.005M borate buffer of pH 8.0 and an increasing concentration of NaCl. I was eluted in the early fractions containing about 0.1M NaCl. Kidney I thus could be obtained 8 fold purer and pea I 15 fold purer than it was in the crude ppts. Solns. of I prepared by the DEAE cellulose chromatography were more stable with respect to enzyme activity than those obtained by zone electrophoresis, perhaps due to the presence of proteinases which could not be liberated from the enzyme by electrophoresis. Comparative enzyme activity tests of the I from kidney and pea with pitrescine, cadaverine, hexamethylenediamine, and histamine as substrates showed that histaminase and diamine oxidase of animals and plants are probably identical enzymes.

L4 ANSWER 24 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1959:64758 CAPLUS
DOCUMENT NUMBER: 53:64758
ORIGINAL REFERENCE NO.: 53:11759i,11760a
TITLE: Separation of aconite alkaloids by ion-exchange chromatography
AUTHOR(S): Okamoto, Toshihiko; Mitsuoka, Keitaro
CORPORATE SOURCE: Univ. Tokyo
SOURCE: Yakugaku Zasshi (1959), 79, 214-18
CODEN: YKKZAJ; ISSN: 0031-6903
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
AB Various aconite alkaloids were successfully separated with the use of the ion exchanger, Amberlite IRC-50, by stepwise elution with phosphate-acetate-borate buffer of different pH values. The adsorption of a base on this ion-exchange resin was not parallel with the pK value (near-neutral point by titration of 20-mg. sample in 20 ml. 50% MeOH or methyl Cellosolve with 0.02N HCl) of the base and there was a certain amount of nonionic adsorption.

L4 ANSWER 25 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1958:77734 CAPLUS
DOCUMENT NUMBER: 52:77734

ORIGINAL REFERENCE NO.: 52:13842b-e
TITLE: Uridine diphosphate amino-sugar compounds from Staphylococcus aureus inhibited by penicillin
AUTHOR(S): Ito, Eiji; Ishimoto, Nobutoshi; Saito, Masahiro
CORPORATE SOURCE: Hokkaido Univ. Sapporo
SOURCE: Nature (London, United Kingdom) (1958), 181, 906-7
CODEN: NATUAS; ISSN: 0028-0836
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB Cells of S. aureus strain 209 P treated with penicillin were extracted with CCl3CO2H, the acid was removed, and the pH adjusted to 9 with Ba(OH)2 and NaOH. The resultant precipitate was removed and EtOH added to 50% by volume and the precipitate separated More EtOH was added to 90% and the ppt.removed. Each ppt.was fractionated by ion-exchange chromatography with Dowex in the Cl form. Fractions with the same peak of optical d. at 260 mμ were pooled, concentrated by absorption on Norit followed by elution with ammoniacal EtOH, and analyzed. After hydrolysis with 6N HCl at 120° for 6 hrs. in a sealed tube, the amino acids were separated and estimated by paper chromatography with BuOH/AcOH/water (4:1:5) and phenol/m-cresol/borate buffer pH 9.3 (25:25:7) as solvent systems. The amount of samples were adjusted to yield approx. equal concns. of amino acid. When normal cells were treated similarly smaller amts. of uridine derivs. containing amino acids were found. There may be a number of compds. containing some of the 5 amino acids, glutamic, lysine, alanine, aspartic, and glycine, in various combinations. This is further evidence for Stromingen's theory (cf. C.A. 51, 4547g) that these uridine diphosphate amino-sugar compds. are possible precursors of cell walls

L4 ANSWER 26 OF 26 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1953:11786 CAPLUS
DOCUMENT NUMBER: 47:11786
ORIGINAL REFERENCE NO.: 47:2090b-c
TITLE: Separation of sugars by ion exchange
AUTHOR(S): Khym, Joseph X.; Zill, Leonard P.
CORPORATE SOURCE: Oak Ridge Natl. Lab., Oak Ridge, TN
SOURCE: Journal of the American Chemical Society (1952), 74, 2090-4
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB cf. following abstract Sugars were separated by elution of their borate complexes from Dowex-1 with boric-borate buffers . Disaccharides were easily separated from monosaccharides, and hexoses from pentoses. The method can be used for detns. The results are consistent with current concepts of the structures of sugar-borate complexes and the reactions of free sugars in aqueous solns.

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